

MISSOURI DEPARTMENT OF CONSERVATION



SEPTEMBER/OCTOBER 2023

Xplor



FALL FOR
PRAIRIES

AUTUMN IS PERFECT FOR
EXPLORING MISSOURI'S
MARVELOUS MEADOWS

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Mountain lions are mighty yet mysterious. Here's what we know about the big cats who visit Missouri.

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Pull out this poster and tape it to your wall to make your room look wild.

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Xplor (ISSN 2151-8351) is published bimonthly. It is a publication of the Missouri Department of Conservation, 2901 West Truman Boulevard, Jefferson City, MO (Mailing address: PO Box 180, Jefferson City, MO 65102.) Subscription free to Missouri residents (one per household); out of state \$5 per year; out of country \$8 per year. Please allow 6-8 weeks for first issue. Notification of address change must include both old and new address (send mailing label with the subscriber number on it) with 60-day notice. Preferred periodical postage paid at Jefferson City, Missouri, and at additional entry offices. **Postmaster:** Send correspondence to *Xplor Circulation*, PO Box 180, Jefferson City, MO 65102-0180. Phone: 573-751-4115, ext. 3856.

Copyright © 2023 by the Conservation Commission of the State of Missouri. Vol. 14, No. 5, September/October 2023 issue printed by LSC Communications in August 2023 in Liberty, Missouri. Printed in the USA.

Send editorial comments to: **Mailing address:** *Xplor Magazine*, PO Box 180, Jefferson City, MO 65102-0180; **Email:** *Xplor@mdc.mo.gov*. **Please note:** *Xplor* does not accept unsolicited article queries, manuscripts, photographs, or artwork. Any unsolicited material sent will not be returned.

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We recycle.
You can, too! Share
Xplor with friends.

A pair of duck hunters awaits the morning's first flight at Duck Creek Conservation Area near Puxico. For waterfowl season dates, limits, and other information, flock to mdc.mo.gov/hunting-trapping/seasons.

ON THE COVER

Monarch

STRANGE BUT TRUE

Your guide to all the
**UNUSUAL, UNIQUE,
AND UNBELIEVABLE**
stuff that goes on in nature

Before unleashing its funky fury, an **EASTERN SPOTTED SKUNK** often does a handstand and walks on its front paws with its tail held high. Don't say you weren't warned.



AMERICAN KESTRELS, like many birds, can see ultraviolet light. Voles — rodents that kestrels love to eat — mark their trails with urine. To humans, the urine is invisible. But in the ultraviolet spectrum, it glows like a neon sign pointing toward dinner.



NORTHERN MOCKINGBIRDS learn new songs throughout their lives. Older birds may have 200 tunes stashed in their songbook.

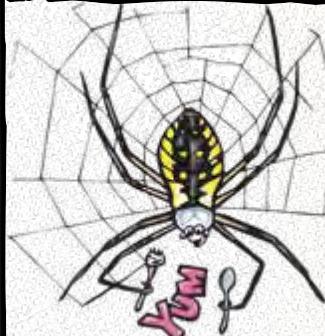
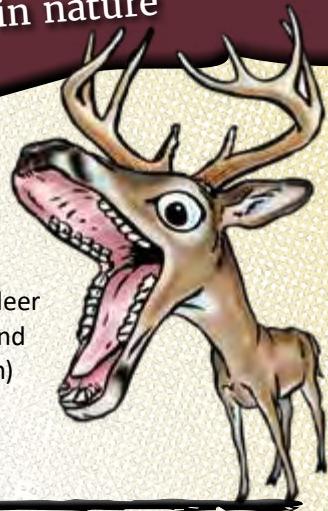
With so many to choose from, mockingbirds mix it up and sing different sets of songs in the spring and fall.



EASTERN WOODRATS have a hoarding habit. If they find a shiny object, they trade it for what they're carrying and stash the treasures back in their nests. Because of this, campers sometimes find sticks where pocketknives or car keys used to be.



Open wide. Biologists estimate the age of a **WHITE-TAILED DEER** by looking at its teeth. Older deer have fewer "baby teeth," and their molars (chewing teeth) are worn down more than those of younger deer.



Spin cycle: **BLACK-
AND-YELLOW
GARDEN SPIDERS**

usually eat their webs at night and re-spin new ones before morning. This is no easy feat. Large webs may contain 60 feet of silk!

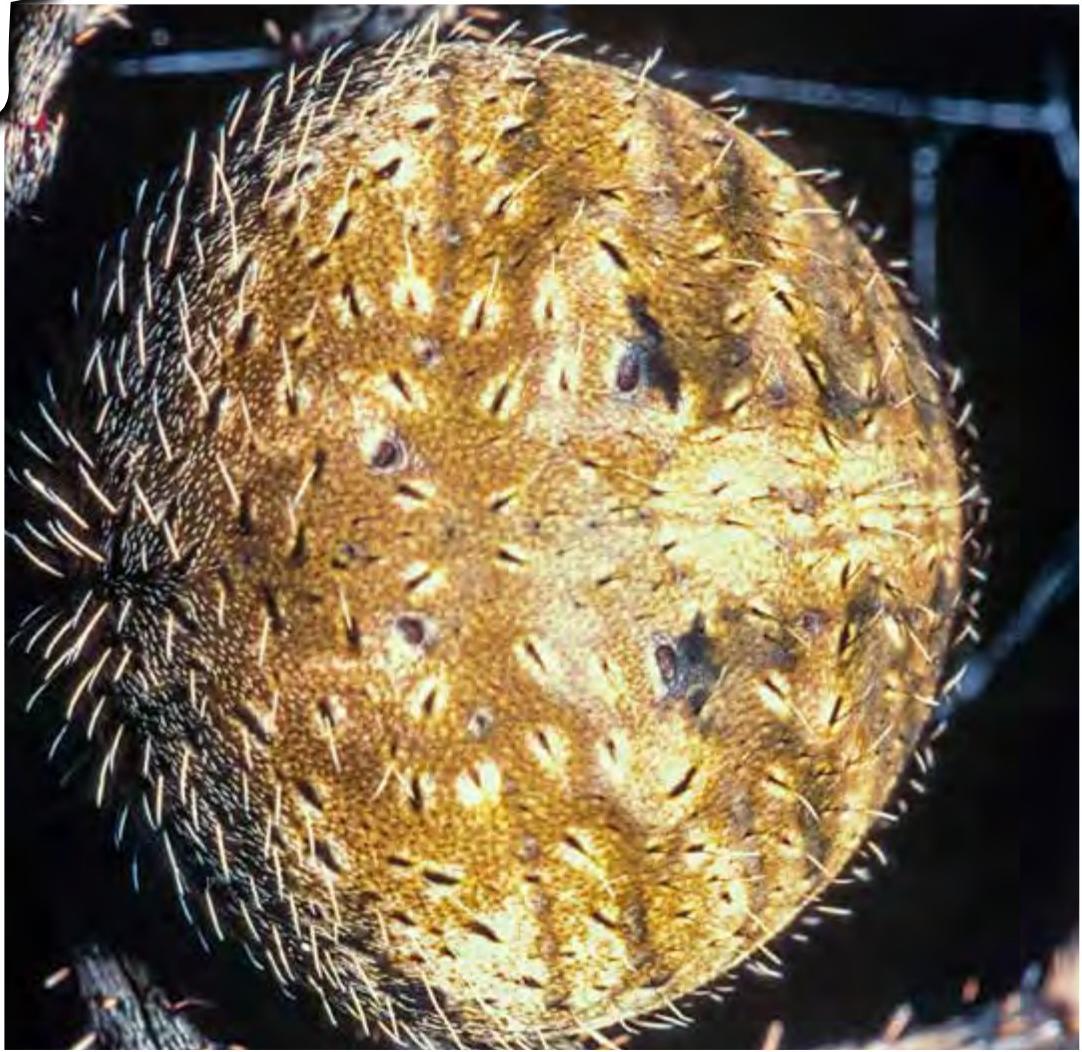
Sproing! **NINE-BANDED
ARMADILLOS** spring straight up when startled. This gives the armored animals a jump on hungry coyotes and other predators, but it doesn't work so well for dodging cars.



Hey chubby cheeks, don't squeak with a full mouth. An **EASTERN CHIPMUNK** can cram nine acorns into its mouth — four in each cheek and one between its teeth.

WHAT IS IT?

DON'T KNOW? Jump to page 21 to find out.



- 1 I weave my net to catch flies.
- 2 Like an angler who fishes the skies.
- 3 I have eight legs and eight eyes.
- 4 When it frosts, I'll bid my goodbyes.

Ask an opossum

Hi! I'm Phi, *Xplor*'s mail possum. I know a lot about nature. If you have a question, email me at AskPhi@mdc.mo.gov.



Q: Why do male deer fight over female deer?
— From Elaina, age 8

A: During sunny, summer months, bucks behave like best buddies. They hang out together and groom each other like oversized cats. But when mating season arrives in autumn, they turn into fierce foes. When two bucks meet, they lock antlers and push each other around. Usually, neither gets hurt during these buck brawls. But the strongest, pushiest deer wins the chance to have more girlfriends. And females benefit by having babies that are strong and tough like their dads.

HOW TO

CARVE A SNACK-O'-LANTERN

Trick or *tweet*!

Give your feathered friends a Halloween treat by turning a jack-o'-lantern into a spooky bird feeder.

HERE'S WHAT YOU NEED

- Newspapers
- Pumpkin (a taller one works better than a fatter one)
- Permanent marker
- Pumpkin-carving tool or paring knife
- Black oil sunflower seeds or roasted pumpkin seeds



HERE'S WHAT YOU DO

- 1 Spread a few layers of old newspapers where you'll be working. This will make cleaning up pumpkin guts much easier.
- 2 Use a marker to draw a spooky face on a pumpkin. Be sure to make the mouth *ginormous*. It needs to be big so birds can enter and get seeds.
- 3 Since the next steps involve sharp tools, ask a grown-up for help. Use a pumpkin-carving tool or a paring knife to cut a circle around the stem of the pumpkin. Lift off the "lid" and scoop out the seeds.
- 4 Don't throw the seeds away! Clean the pulp off of them, layer them on a baking sheet, and roast them in a 400-degree oven until they're golden-brown, about 5 to 15 minutes. Birdseed or people snack? You decide.
- 5 Carve the openings for the eyes, nose, and mouth into the pumpkin.
- 6 Set your snack-o'-lantern on an outside table or porch rail where you can watch it. Birds will find it quicker if you place it near an existing bird feeder. Fill the bottom of the pumpkin with black oil sunflower seeds or roasted pumpkin seeds.
- 7 Keep an eye on your snack-o'-lantern to see who shows up for trick-or-tweets.

MYSTERY CATS

CREEP CLOSER FOR
A SNEAK PEEK AT
MISSOURI'S MOST
MYSTERIOUS
VISITOR.



ACTUAL SIZE. IS YOUR PAW THIS BIG? _____

Mountain lions are known by many names. Cougar, puma, panther, and catamount are just a few. Whatever you call them, these predators aren't puny. A male may weigh over 200 pounds and stretch over 8 feet from the tip of its nose to the end of its heavy, round, 3-foot-long tail. Females are slightly smaller. Despite their size, the cats seem to be able to disappear, slipping silently through the woods like golden-eyed ghosts.



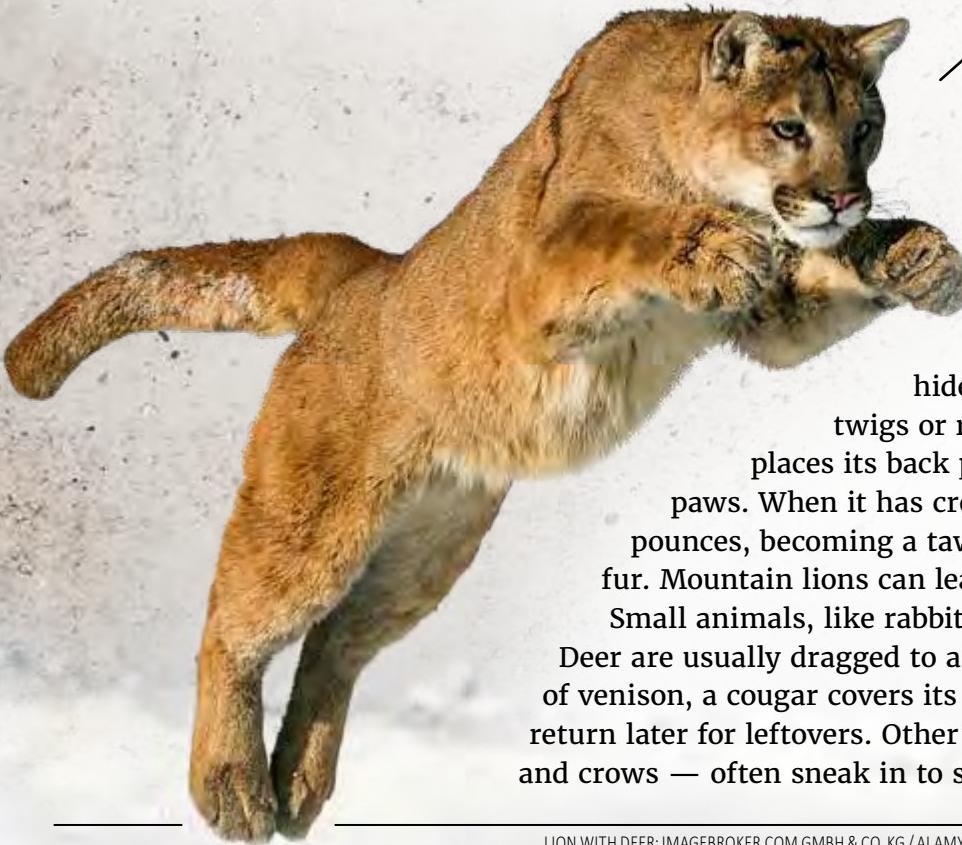
PURRFECT PREDATORS

Deer are at the top of a mountain lion's menu, but they'll eat whatever they can catch. Thanks to an arsenal of sharp claws, strong jaws, and keen eyeballs, they catch quite a lot.

Not much escapes a cougar's keen eyes. Their field of vision is wider than a human's, which means they spot prey at the sides of their sight that you wouldn't be able to see. In addition, a puma's peepers are packed with more light-sensitive cells than yours, so they see better in the dark.

Cougars usually keep their claws tucked into their paws. This keeps them razor sharp. When a lion is ready for business, it unsheathes its terrible toenails, hooks them into prey, and drags the victim down so it can put its teeth into play.

Super strong mouth muscles help a lion bite with might. And its canines — the long, pointy teeth at the edges of its smile — fit perfectly between the bones of a deer's spine. When a cougar chomps down, its teeth pierce a deer's spinal cord, delivering a quick death.



A WHISPER IN THE SHADOWS

Mountain lions hunt at dawn and dusk, when deer are most active. Once it spots dinner, a cougar crouches down and slinks closer, using vegetation to hide its approach. To avoid snapping twigs or rustling leaves, a sneaking lion places its back paws in the footprints of its front paws. When it has crept within striking range, it pounces, becoming a tawny brown blur of claws, fangs, and fur. Mountain lions can leap up to 45 feet in a single jump!

Small animals, like rabbits or raccoons, are eaten on the spot. Deer are usually dragged to a hiding place. After eating its fill of venison, a cougar covers its catch with leaves and dirt so it can return later for leftovers. Other animals — like bobcats, coyotes, and crows — often sneak in to snack on a cougar's kill.

CATS IN THE CRADLE

Mama mountain lions can have babies at any time of the year, but summer is most common. Mom finds a sheltered spot in a hollow log, rocky cave, or tangled thicket, and there she gives birth to a litter of two or three mewling kittens.

At birth, the little fur balls have black spots, are blind, and weigh about as much as a box of butter. After two weeks, they begin walking and their eyes open, revealing deep blue peepers.

For the first few weeks, the kittens eat nothing but mom's milk. When they're about 6 weeks old, they begin chewing on bones. A few weeks after that, they begin eating meat and following mom as she hunts for food.



LEAVING HOME

Kittens stay with mom until they're about 2 years old. By then, the youngsters' blue eyes have turned yellow, their spots have faded, and they can fend for themselves.

Female lions find a home away from mom but often in the same general area. Life is tougher for their brothers. Grown-up males don't like to share their large territories with teenagers. To find a place to live, young males must fight with stronger, more experienced males — or leave.

Most of the youngsters wander long distances to find a new home. And that may explain why some have started popping up in Missouri.

MOUNTAIN LIONS IN MISSOURI

Nearly 100 years ago, a mountain lion was shot in Missouri's Bootheel. For decades afterward, that cat seemed to have been the last of its kind to prowl our hills and hollows. But in 1994, raccoon hunters illegally shot a cougar out of a tree in the Ozarks. And since then, the big cats have shown up in the Show-Me State more than 100 times.

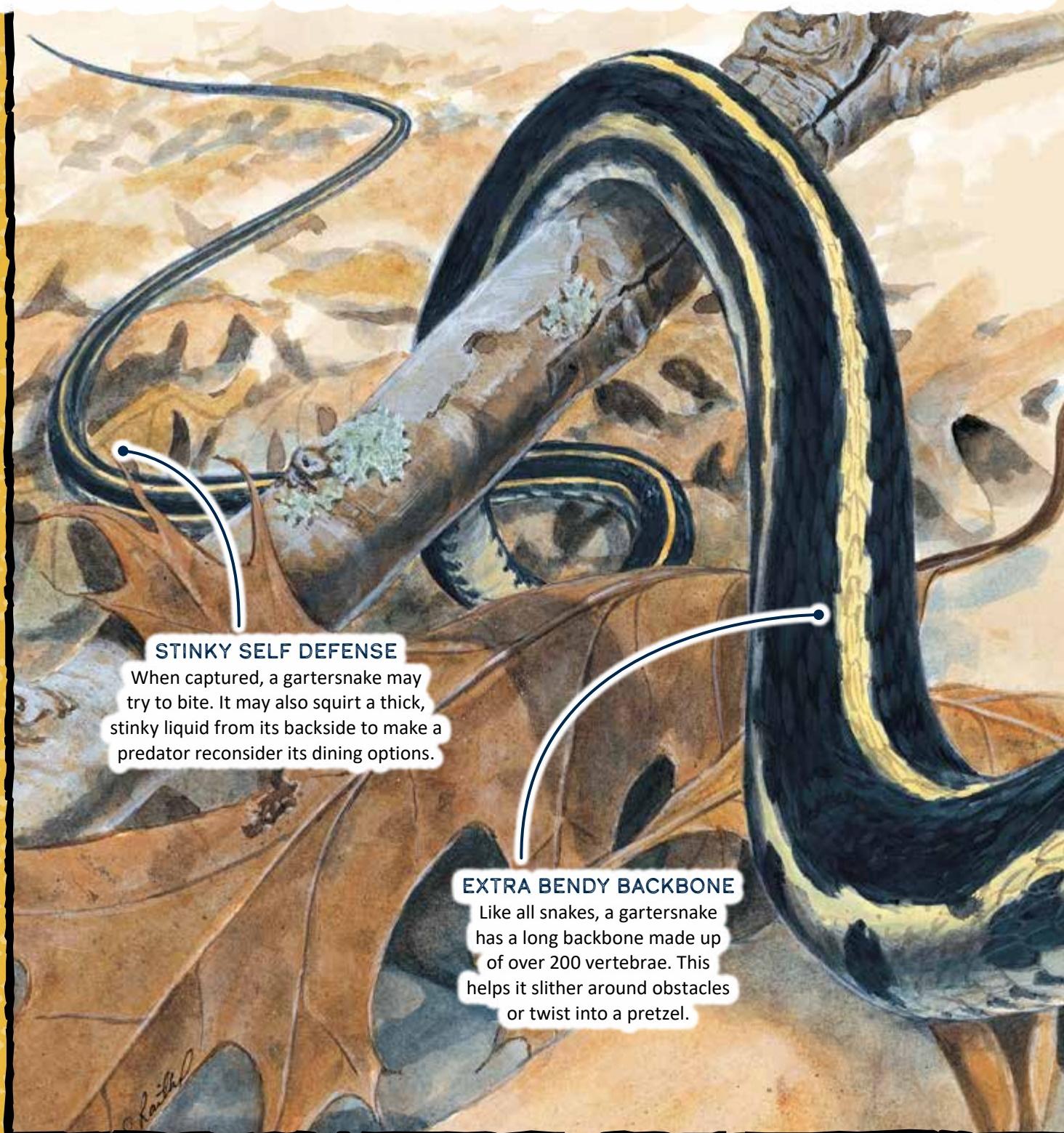
There's been no recent evidence of a mountain lion having babies in Missouri. In fact, only two female cougars have been confirmed in the state since the 1920s. Western states like Wyoming, Colorado, and South Dakota have healthy populations of cougars. Biologists believe the cats that turn up here are youngsters who have fled their western homes in search of their own territories.

Let's get one thing straight: There's no need to be scared about meeting a mountain lion on your next hike. The chance of seeing one in Missouri is extremely slim, and the chance of being harmed by one is even slimmer. In fact, you're more likely to be struck by lightning than struck by a cougar. People who cross paths with a mountain lion should not run away. Instead, they should raise their arms above their head to look as big as possible.

If you're one of the lucky few to spot a cougar or capture its image on a game camera, the Conservation Department would like to know about it. To report a sighting, visit mdc.mo.gov/mountain-lion-reports.



EASTERN GARTERSNAKE

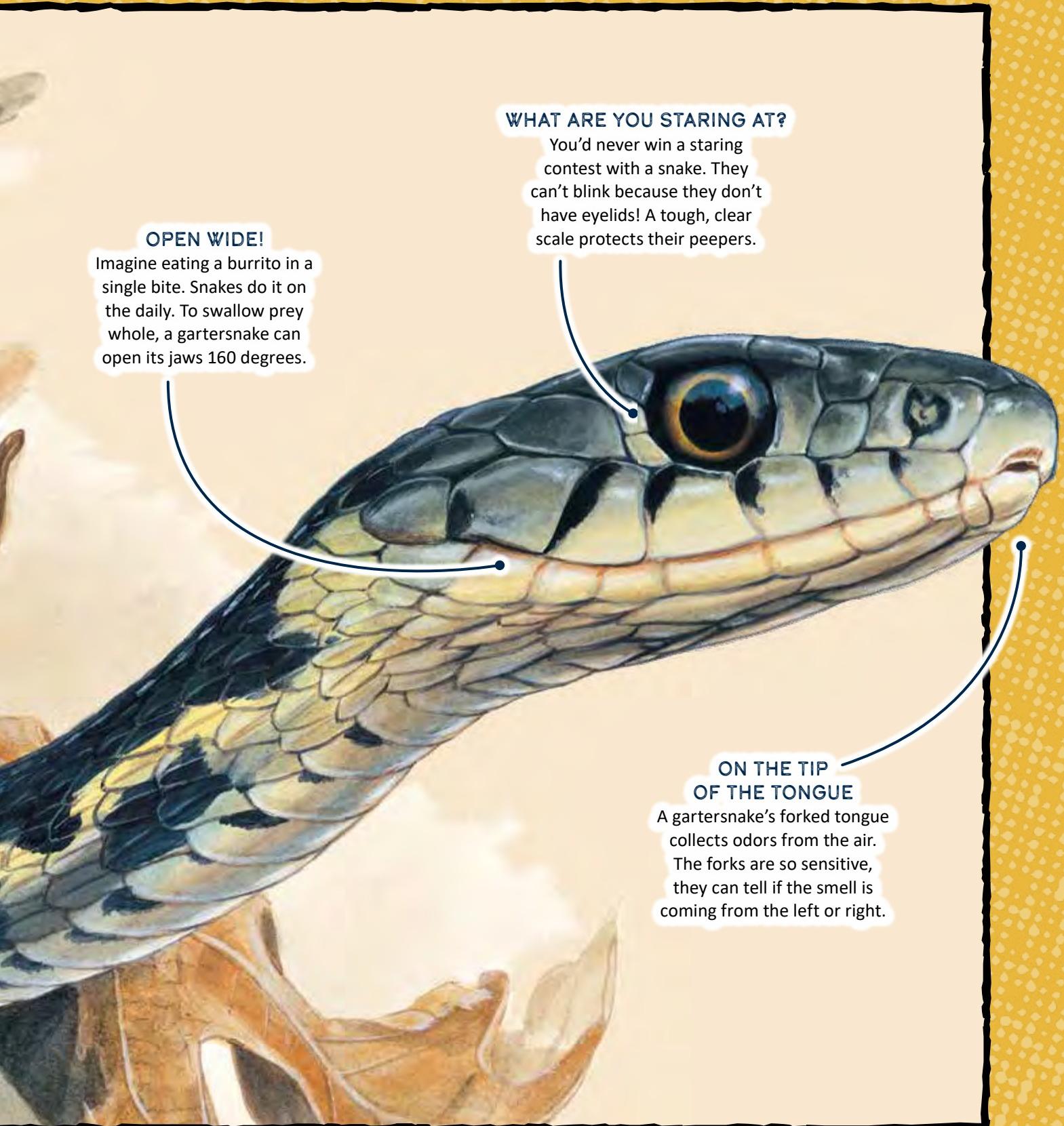


STINKY SELF DEFENSE

When captured, a gartersnake may try to bite. It may also squirt a thick, stinky liquid from its backside to make a predator reconsider its dining options.

EXTRA BENDY BACKBONE

Like all snakes, a gartersnake has a long backbone made up of over 200 vertebrae. This helps it slither around obstacles or twist into a pretzel.



A Little Walk *on the* Prairie

Early fall is the perfect time to visit a prairie. The muggy heat of summer has passed, yet there are still plenty of flowers abloom and critters afoot. Join Xplor for a guided hike through these glorious grasslands.

Where to Go

Prairies once covered most of northern and western Missouri — nearly a third of the state! Today, unplowed prairies are Missouri's rarest habitat, and less than 1 percent remain. Pockets of prairie can still be found at these locations.

- 1 Tarkio Prairie Conservation Area
- 2 Pawnee Prairie Natural Area
- 3 Dunn Ranch Prairie
- 4 Paint Brush Prairie Conservation Area
- 5 Hi Lonesome Prairie Conservation Area
- 6 Taberville Prairie Conservation Area
- 7 Wah'Kon-Tah Prairie Conservation Area
- 8 Prairie State Park
- 9 Niawathe Prairie Conservation Area
- 10 Diamond Grove Prairie Conservation Area



Putting the “Tall” in “Tallgrass”

The moment you step into one of Missouri's native grasslands, you'll understand why they're called “tallgrass” prairies. Some of the grasses reach over 8 feet tall! More than a dozen different kinds grow on our prairies, but four are most common. Can you find these “big four” on your visit?

Before You Go...

- ✓ Shade is in short supply on a prairie. Protect yourself from sunburn by wearing a wide-brimmed hat and slathering on sunscreen.
- ✓ Insect repellent and long pants will help keep bitey bugs and ticks at bay.
- ✓ Exploring can make you thirsty, so pack plenty of water. Bring a pair of binoculars, an insect net, and a magnifying glass if you have them.

To-Tail-y Fascinating

Can you guess why this bird is called a scissor-tailed flycatcher? These grassland-loving birds use their long, forked tails to help them twist and turn in the air as they chase insects to eat.



Furry Excavators

Armed with strong legs, wide paws, and long claws, badgers are the fastest diggers on the prairie. They have to be to catch burrowing mammals like gophers and ground squirrels. Although you're more likely to see a badger's burrow than the animal itself, your chances of spotting one above-ground increase in September when they search for mates.



Big bluestem



Little bluestem



Indian grass



Switchgrass



Packed with Plants

Over 800 kinds of grasses, wildflowers, and other plants grow on Missouri's prairies. In some places, more than two-dozen kinds can be found in a space the size of a Hula-Hoop! Turn in a circle. How many different kinds can you spot?

Regal but Rare

Regal fritillaries are one of Missouri's most endangered (and most beautiful) butterflies. Your best chance to spot one is on a prairie. Look for females sipping nectar from flowers or crawling along low-growing vegetation to lay eggs.



Now You See Me, Now You Don't

An eastern meadowlark's speckled brown back makes it nearly invisible as it stalks along the ground looking for bugs. But when it perches on a fence post or tall clump of grass, its sunshine-yellow chest and black bib give it away.

Shower of Flowers

Exploring a prairie is like walking through a rainbow. In the fall, a prairie's palette is packed with yellows and purples. How many of these wildflowers can you spot?



A **compass plant**'s lower leaves grow with their edges pointing north and south. This way, less of the leaf is facing the hot, moisture-stealing sun.



Downy gentian is a late bloomer. It often waits until October to open its regal purple petals, and it can even survive hard frosts.



Prairie dock is one of the tallest plants on the prairie. Its yellow flowers can tower 10 feet above the ground.



Face Funnel

If you see a hawk swooping low over the grass, look closely at its rump. Though males are gray and females are brown, all northern harriers have a snow-white caboose. A harrier's saucer-shaped face is lined with stiff feathers that funnel sounds to its ears, which helps the hawk find squeaking mice hiding in the grass.

What's All the Buzz About?

With all those flowers, it's no wonder prairies are abuzz with insects. Nearly 3,000 kinds of butterflies, bumblebees, beetles, and other bugs buzz about in Missouri's high-quality grasslands. Swish an insect net through the flowers to see how many kinds you can catch.



Rough blazing star looks a bit like a purple cattail. Bees, butterflies, and even hummingbirds sip sweet nectar from its pink flowers.



Many kinds of **blue and purple asters** bloom on prairies in the fall. New England aster is one of the most common and also one of the tallest, reaching 6 feet in height.



Contrary to popular belief, **goldenrod** doesn't cause seasonal allergies. Its pollen (the "dust" that makes you sneeze) is too heavy to be carried by the wind.



Birds and other little critters visit **cup plants** to sneak a sip of water captured in the plant's clasping leaves.

Migrating Monarchs

In September, monarch butterflies migrate all the way to Mexico to escape winter weather. You'll probably see at least a few sipping nectar on asters and goldenrods. The plucky orange butterflies need all the energy they can suck down if they hope to complete their 1,500-mile flight.



Hitchhikers and Fliers

As you walk through a prairie, your pants may become covered with sticky seeds. These are **baby tick trefoil** plants. To move away from mom, the seeds stick to animals (including people) and fall off to grow in a new location. Other plants, like **milkweed**, have light, fluffy seeds that are blown to new homes by the wind.



Goodness Sakes, That's No Snake!

Keep your eyes peeled for one of Missouri's most interesting reptiles. Glass lizards lack legs and look like snakes. But they have eyelids and ear holes, which snakes don't have. When attacked, a glass lizard can shed its tail. The tail flops and squirms, which distracts a predator and gives the lizard time to wiggle away.



Sneaky Snake

If you're lucky, you might come across a prairie ring-necked snake. When scared, this shy, secretive serpent curls its tail into a corkscrew and flashes its reddish-orange underside. The bright tail acts as a decoy, luring a predator's sharp teeth away from the snake's delicate head.



That's Bulloney!

When threatened, a bullsnake makes a loud, rattling hiss. The sound mimics a rattlesnake's tail, which scares predators away from the large but harmless snake.



It's a Yucky Job ...

A rainbow scarab has a yucky — but important — job. When it finds a pile of poop, it rolls some of it into a ball, pushes it away, and lays eggs inside. When the eggs hatch, the baby beetles eat the poop. Although it seems gross, these beautiful beetles keep wastes from piling up and help spread nutrients that nourish plants.



Say My Name, Say My Name

A dickcissel's funny-sounding name mimics its buzzy call: *dick-dick-sis-see-see*. Before migrating south for winter, these colorful seed-eaters form large flocks that may contain thousands of birds.



Missouri's Most Multi-Hued Habitat

Prairies change colors with the seasons. In winter, they are mostly grayish-tan. Spring brings new green growth. By summer, riots of wildflowers burst into bloom, turning the hills into a living rainbow. And in the fall, grasses fade to a rich reddish-brown while purple, yellow, and white flowers offer a last pop of color.



Castles of Mud

This is the entrance to a crayfish's house. Grassland crayfish tunnel — up to 15 feet deep — into soggy ground to stay cool and wet. As they dig, they carry blobs of mud to the surface and stack them to form tiny chimneys.

GRASSLAND CRAYFISH: CHRIS LUKHAUP

Checking All the Boxes

An ornate box turtle's lower shell has a hinge that lets the shell swing tightly closed. This keeps the turtle's head and legs safe from predators. But the shell offers little protection from cold weather. In mid-October, box turtles burrow a foot or farther into the deep prairie soil and spend winter underground.



XPLOR MORE

Spider Bingo

Some people shriek “Eeeek!” when they spot a spider. Others find them fascinating. Whatever side you’re on, early autumn is a great time to head outside to see what the eight-legged web weavers have been up to.

Instructions

Cut out the bingo cards. Bring the cards, a couple friends, and some pencils outside. When you spot something that’s listed on the card, put an “X” in the corresponding box. When you get five X’s in a row, yell “Xplor!”



* Although they look similar, daddy longlegs aren’t spiders. They have a one-piece body (spiders have bodies made of two parts), and they don’t have silk or venom glands like spiders do.

SPIDER WASP: DAVID CAPPAERT, BUGWOOD.ORG; CRAB SPIDER: JON YUSCHOCK, BUGWOOD.ORG; EGG SAC: WHITNEY CRANSHAW, COLORADO STATE UNIVERSITY, BUGWOOD.ORG; MOTH IN WEB: ©ZHANGHAOBEIBEI | DREAMSTIME.COM; BLACK WIDOW: ©COOPERERNIE | DREAMSTIME.COM; FLY TRAPPED IN WEB: ©MOHD HAFIEZ MOHD RAZALI | DREAMSTIME.COM; BEETLE TRAPPED IN WEB: ©PROJEKTYMARIUSZ | DREAMSTIME.COM; SHEET WEB: IAN_REDNING, ISTOCK.COM; WEB ATTACHED TO OUTSIDE OF HOUSE: ©SEANU WURAH | DREAMSTIME.COM



Warning: In "Spider Bingo" if you say "bingo" instead of "Xplor," you must erase one of your X's and continue to look for items until you have five in a row again.



GET OUT!

FUN THINGS TO DO
AND GREAT PLACES
TO DISCOVER NATURE



LOOK FOR
TOUCH-ME-NOT (aka jewelweed) along the banks of streams and in wet wooded areas. To learn how it got its name, touch a **green seedpod** and watch it explode, scattering the seeds that were inside.



One of the best ways to SEE THE DAZZLING FALL COLORS of Missouri's trees is to shoulder a backpack and hit the trail. To find nearby hiking paths, visit mdc.mo.gov/atlas.



You can help scientists learn more about birds in Missouri and across the U.S. by counting the feathered friends at your feeder. PROJECT FEEDERWATCH runs from November through April. Sign up at feederwatch.org.



In September, LOOK FOR WASPS HUNTING SPIDERS.

One jab from a wasp's stinger, and a spider is paralyzed. After dragging it to her nest, the wasp lays an **egg** on the still-alive spider. When the baby hatches, the spider becomes its first meal.

MUD DAUBER: JOHNNY N. DELI, BUGWOOD.ORG



GIANT PUFFBALL MUSHROOMS are fun to stomp and good to eat. Dust them in breadcrumbs, fry them in oil, and drizzle with pasta sauce to make puffball parmesan. Before cooking, cut each puffball from top to bottom. If it's pure white inside with no sign of a cap or stem, it's OK to cook and eat. Some mushrooms are deadly. Never, ever eat one you aren't sure about and never eat them raw.



Looking for more ways to have fun outside? Find out about Discover Nature programs in your area at mdc.mo.gov/events.

WHAT IS? IT?

— FROM PAGE 3 —



SPOTTED ORBWEAVER

Spotted orbweavers are hairy and scary but harmless. They weave sticky, wheel-shaped webs to catch flying insects to eat. During summer, orbweavers eat their webs each morning and build new ones at night. This keeps wasps and other predators from using the webs to find a spider for a snack. In the fall, female orbweavers need extra energy for egg laying, so they leave webs up during the day. When frosts arrive, adult spiders die, but their eggs hatch the following spring.

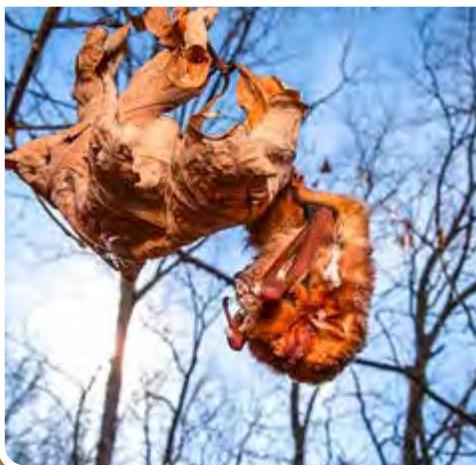
GO FIND IT!



Cut out this critter card and take it with you outside.
How many of the things on the card can you find?



EASTERN RED BAT



SEEING WITH SOUND

To find food after dark, a bat emits squeaks and listens for them echoing off of nearby objects.

BAGGING BUGS

A bat uses its wings and tail like a catcher's mitt. Instead of curveballs, it nabs insects and eats them in midair.

LEAFY LOOKALIKE

When a red bat needs a breather from bagging bugs, it hangs upside down from a branch and looks like a brown leaf.

MAMA MIA!

Most bats have only one baby at a time. Red bats can have up to four!

MOSTLY MIGRATORY

Most red bats migrate south for winter, but some stay put and burrow under a blanket of leaves on the forest floor.

To subscribe, cancel your subscription,
or update your address, visit

mdc.mo.gov/xplor.

FREE TO MISSOURI HOUSEHOLDS

GO FIND IT!

Red bats are common from May through September along forest edges, in backyards and cities, and around farms. For more on Missouri's furry fliers, flutter over to mdc.mo.gov/field-guide.

EASTERN RED BAT

